

Deployable Composite Structures, Phase I

Completed Technology Project (2011 - 2011)



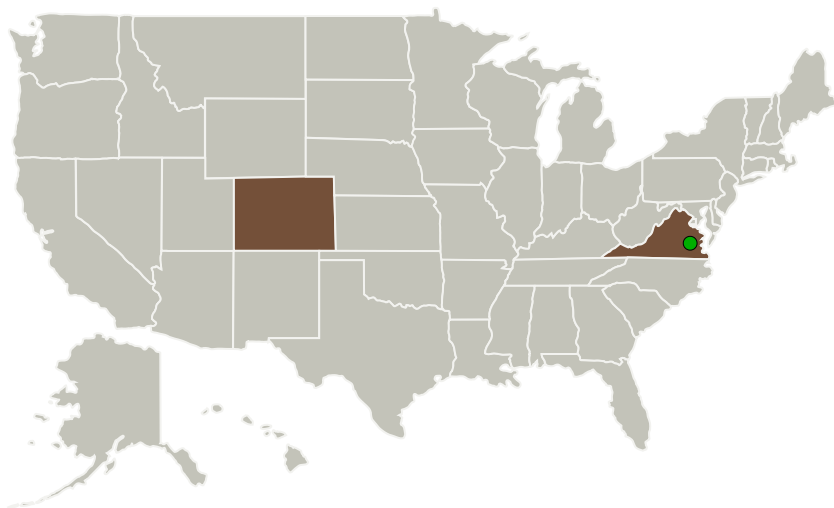
Project Introduction

NASA is seeking innovative structure technologies that will advance expandable exploration space modules and surface based habitats. To address this need CTD has proposed to develop multi-functional, highly mass efficient deployable composite structures. These composite structures will build upon CTD's innovative Composite Rollable Extendible Slit-Tube Structures (CRESTS) and TEMBO

REG

shape memory composites. The deployable composite structures have much lower mass and part counts than corresponding mechanical deployable systems. These composite deployable structures can be configured to meet a variety of needs within Expandable Space Habitats, and significantly increase functionality.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
Composite Technology Development, Inc.	Lead Organization	Industry	Lafayette, Colorado
● Langley Research Center(LaRC)	Supporting Organization	NASA Center	Hampton, Virginia



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Primary U.S. Work Locations

Colorado

Virginia

Project Transitions



February 2011: Project Start



September 2011: Closed out

Closeout Documentation:

- Final Summary Chart(<https://techport.nasa.gov/file/140229>)

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

Composite Technology Development, Inc.

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

Robert M Taylor

Co-Investigator:

Robert F Taylor

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Technology Maturity (TRL)

Start: **2**
Current: **4**
Estimated End: **4**



Technology Areas

Primary:

- TX12 Materials, Structures, Mechanical Systems, and Manufacturing
 - └ TX12.1 Materials
 - └ TX12.1.1 Lightweight Structural Materials

Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System